Learning Networks for Lifelong Learning: An Exploratory Survey on Distance Learners' preferences

Adriana J. Berlanga[a], Ellen Rusman[a], Jannes Eshuis[b], Henry Hermans[a] & Peter B. Sloep[a]
[a]Centre for Learning Sciences and Technologies (CELSTEC), [b]Psychology Department, Open University of The Netherlands.

Abstract

Distance learners have fewer face to face contact opportunities with staff and peers than learners in regular settings. A Learning Network might facilitate social interaction and knowledge sharing for these learners thereby helping them to overcome isolation and dropout. In this paper we argue that social network sites functionalities can provide insights regarding how Learning Networks for distance learners should be designed to foster social bonding and knowledge exchange. First, the paper briefly presents a social network site (MyOU.nl) of the Open University of The Netherlands (OUNL), which was implemented as a pilot of how social network tools and approaches can be combined. Thereafter, the paper presents the results of a survey (N=353) conducted to investigate the usage of social network sites of learners enrolled in the OUNL, who usually are adults, combining work, private obligations and study. Particularly, the survey investigated OUNL learners' social network sites usage and perception of the design features they value most, as well as the features they would like to have in a Learning Network designed to support their study. Results show that profile social network sites are the most popular among learners. Although most learners are not actively participating in these sites, they nevertheless support the idea of a dedicated social learning network for their study. However, the vast majority does not see social network sites useful to share knowledge and expertise with others, or perceive the usefulness of these sites for learning. Results also show that learners have a self-centred, goal-oriented attitude, so they do not consider it vital to share their knowledge, find peers or work collaboratively. Their focus is on developing their competences as fast and efficient as possible. Therefore, they seem to prefer functionalities and tools for self-assessment, resources suitable for self-study and contact with experts, rather than functionalities for creating communities, contacting peers to work collaboratively, sharing resources, sharing knowledge using social tools, such wikis and blogs. The paper discusses these findings and provides advice to implement a Learning Network for distance learners. Finally, conclusions and future work are briefly described.

Keywords

Learning Networks, Web 2.0, distance learning, design guidelines, social network sites

Introduction

In distance learning settings, social interaction and knowledge sharing are key factors to prevent learner's isolation and to enhance learning. The Open University of The Netherlands (OUNL) has conducted research to find out how Technology Enhanced Learning can promote lifelong learning. To this end the concept of Learning Networks has been elaborated. These networks include groups of participants and learning activities that are interconnected and supported through information and communication technologies in a manner that the network self-organises and promotes effective lifelong learning (Koper *et al.*, 2005). These networks should be designed bearing in mind that they will actually benefit the learning process mostly when participants contribute and participate. Interaction will not emerge automatically, so special affordances should be provided. We have argued before (Berlanga *et al.*, 2009) that especially community sustainability and interpersonal trust formation are important aspects to be considered in the design of formal and informal online learning communities that are part of a Learning Network. We hold that participants should be provided with functionalities that allow them to (1) manage their own presence and contributions, (2) organize the community contributions and support knowledge co-construction, (3) classify and evaluate participants' contributions, and (4) regulate and control contributions. Furthermore, in order to foster interpersonal trust formation in online communities, provisions

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have to be taken to counterbalance the lack of signals and signs normally perceived in face-to-face situations. To this end, online learning communities should be designed in such a way that they (5) promote the exchange of off-task personal information, (6) show and exchange information about participants' reputation, (7) show information about participants' presence, activities and availability to the rest of the community, and (8) show information about community's characteristics (see (Berlanga *et al.*, 2009) for a detailed description of these guidelines).

The starting point for a derivation of these functionalities was to investigate Social Network Sites (SNSs) affordances. Our thought was that these sites can provide insights on how educational services can facilitate social interaction and knowledge sharing in Learning Networks. To explore this idea further, we designed a survey to explore the use and perception of social network sites with the long-term objective of proposing design guidelines for Learning Networks. The survey has already been used to explore OUNL staff use and perception of social network sites (Brouns *et al.*, 2009). The survey was refined and used again to provide information on the design of future realises of the MyOU.nl social network, a site dedicated to facilitate learners' social interaction, knowledge sharing, and to enhance and support their study activities. At the same time, the survey helped us to explore how OUNL students actually use social network sites and what functionalities they would like to have in a Learning Network that helps them to develop their competences, stay in touch with peers, and get learning resources. This paper presents the results of the survey (N=353) and, based on these findings, advice is provided for the implementation of a next version of MyOU.nl. Before, presenting the results, the next section briefly introduces MyOU.nl.

MyOU.nl

The OUNL has 29,104 students (51% female; 49% male), who are between 36 and 45 years (33%) or between 25 and 35 years old (32%). Most of them combine work and study: 60% of the student body has a full-time job, and 44% are second-chance students, who have never completed a higher professional programme. Autonomy of place and time is important for OUNL students: 34% of them choose the OUNL programs because of their time- and location-independent character (OUNL, 2007).

In the first phases of their study many students register, but there is a high drop-out in these initial phases (Schoevaart & Höppener, 2008). In face to face settings a supporting social study context and a bond with a regular study buddy can help them to get through hard-times. The OUNL wants to support students in finding buddy students, with which they can share their distance-study experiences as well as meet virtually. These virtual meetings allow them to discuss content matters, help reduce drop-out rates as well as offer an extra customer service. The OUNL wants to foster bonds amongst students as well between students and the organization. Therefore, a prototype of an academic social learning environment has been designed and will be piloted (Eshuis & Hermans, 2008; Hermans & Verjans, 2009). This environment, MyOU.nl, should facilitate learners' social interaction, knowledge sharing, and enhance and support their study activities.

Students at the OUNL are self-directed, adult learners, who plan and study mainly in isolation, by themselves, combining professional and personal obligations. The enrolment rate in introductory courses is high, but also the drop out rate is high (Schoevaart & Höppener, 2008). As distance learning goes, interactions and meetings with other learners are scarce. Although they value encounters with colleague learners, mainly for knowledge exchange and motivation, they do not want to invest in travel time to meet regularly (Rusman *et al.*, 2008; Schlusmans *et al.*, 2009). There is a need, therefore, to foster bonds amongst learners as well as between learners and the university. To this end the OUNL has adopted the concept of personal learning and working environment as the future delivery platform for educational services (Eshuis & Hermans, 2008; Hermans & Verjans, 2009). As part of the implementation of this concept, the MyOU.nl service was developed. The main aim was to develop a personal/learning workspace for learners, which provides social networking facilities and approaches, and evaluate the actual use and perception of these services amongst a group of OUNL learners.

This pilot version of the MyOU.nl service combines social network sites functionalities. To this end, we determined that learners should be able to recognize and connect with other learners with specific characteristics (e.g. of similar age, similar study domain), as well as to communicate synchronously and asynchronously with these learners. Learners, furthermore, should be able to contact each other from the context of a course as well as via a 'communication square', where they can search for similar learners (on various characteristics, such as their knowledge domain and study pace) via the publicly available profiles. Learners should be enabled to connect and built relations and use this relations to their advantage by building a contact list of study friends, who have access to a more elaborate version of the other's profile. Learners should be enabled to exchange and share resources, such as literature, and URLs. They should also be able to rate and tag these resources. Students should also have an overview of the courses they are registered for, their own study path and any relevant news available. These functionalities should be united in a kind of personalized profile page, which is the learner's access and connection to the broader OUNL community. The surplus value of this dedicated OUNL network

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site compared to common sites, like LinkedIn and Hyves, lies in the strictly academic nature of this network and the strong common study interest among its participants.
Figure 1 provides an overview of the envisioned functionalities. The screen is divided in three functional areas. Functionalities related to the person ("Me") are positioned at the left corner of the screen, functionalities derived from the relation between this person and other persons or the institute ("Me & You") are positioned at the left side and functionalities related to connecting with others or the institute ("We") are positioned at the top of the screen.

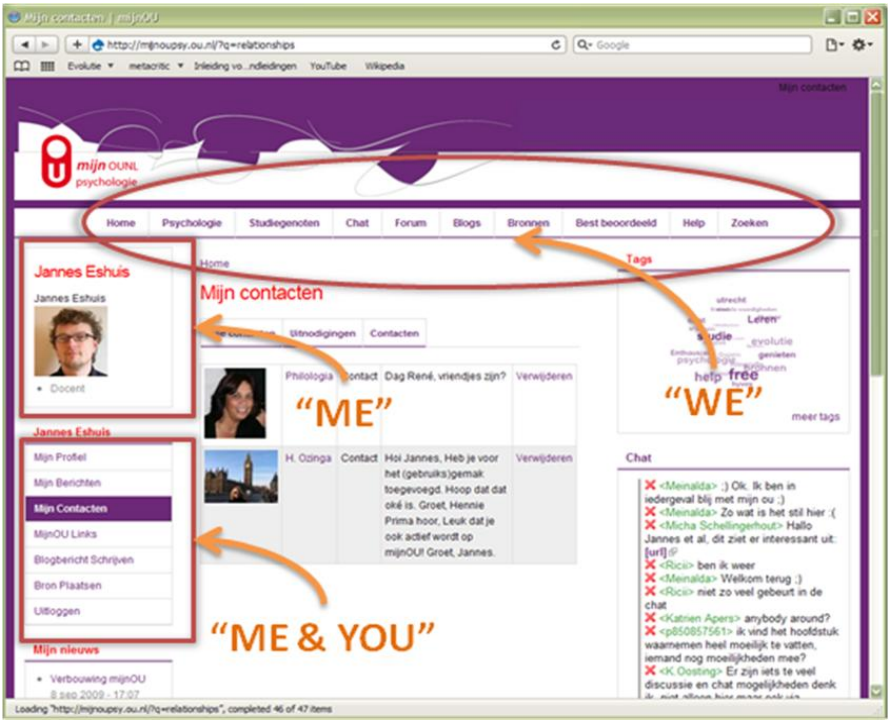

Figure 1. MijnOU.nl network site

Survey on Social Network Sites

Before MyOU.nl was released, participants were asked to complete an initial survey. Our ambition was two-fold. On the one hand we wanted to identify possible areas of improvement of MyOU.nl, particularly having in mind the idea of providing OUNL learners with a Learning Network. On the other, our aim was to investigate whether social network sites (SNS) are as popular amongst OUNL learners as the literature claims they are, and to see which of the SNS functionalities learners value most. In this context, the term "social network site" is defined as a web-based service that allows individuals to (1) construct a profile within a bounded system, (2) have a list of contacts / network / friends with whom they share a connection, and (3) view and navigate through their connections and those made by others within the system (Boyd & Ellison, 2007). This definition covers the different types SNS, from profile sites -such Hyves, LinkedIn or Facebook, to resource sharing sites -such as YouTube or Flickr. We claim that the functionalities included in these SNS should therefore be considered when designing Learning Networks. The survey explored mostly three aspects: (a) social network sites awareness, usage and perception, (b) most valued features and functionalities, (c) preferences for a dedicated OUNL Learning Network.
OUNL Students from the Psychology and Informatics Faculties, who were enrolled in two introductory courses and were about to be invited to participate in the MyOU.nl pilot, were asked to fill out the survey. 1727 invitations to participate were sent, and 353 surveys received. Almost all respondents were from the Psychology Faculty (97%), and most of them female (67%). The average age is 39.33 (Min = 20; Max=69; Mode= 39; SD= 9.72). 52% of the respondents had a higher education degree (college or university) or a 38% a secondary education degree before they entered to the OUNL. Weekly, they spend on Internet between 10 to 20 hours (30%), or between 5 to 10 hours (25%).

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Social network sites awareness, usage and perceived benefits and drawbacks

Results show that respondents are *aware* of some of the most popular SNSs, such as: YouTube (65%), Hyves (54%), Schoolbank (40%), LinkedIn (32%), Facebook (27%), and MySpace (17%). Learners play an active role (i.e., they are registered and they participate actively) especially in Hyves (24%) and LinkedIn (13%). However, their active participation is meagre in SNS such as YouTube (7%), Schoolbank (2%), Facebook (7%) and MySpace (1%). Nevertheless, if the figures profiling sites such as Hyves, LinkedIn and Facebook are combined, the result is that SNSs for profiling are the most known and used.

Regarding the *context of use*, most of the respondents (78%) use SNSs for personal reasons, 17% for work and only 3% for study. The *frequency* of use is mainly once per week (31%), a few times per month (16%), and once per day (15%).

Respondents indicated that their main *reasons to register* to a SNS were that someone invited them to join (29%) and to stay in touch with acquaintances (23%). They do not normally join SNS for business (8%) or to meet new people (4%).

Answers reveal that the *reasons why respondents use* SNS are social. Respondents indicated that their top reasons to use a SNS were to keep in touch with people they know (56%), leisure (39%), networking (28%) and socialization (27%), whereas knowledge or career reasons, such as acquire new knowledge (13%), sharing expertise (13%), business (12%) or acquire new skills (7%), have less relevance.

Regarding the main *benefits*, respondents pointed out that SNSs help them to bridge the distance or keep in touch with others (64%), to network with existing contacts (52%), and to make renewed contact with old acquaintances (51%). 33% of the respondents considered SNSs useful to share knowledge and expertise with others, and only 25% thought these sites could help them to learn from others.

As main *drawbacks* respondents answered that they do not feel comfortable sharing all their information with others (48%) (i.e., 'I don't want to share everything with everybody'), that there are too many SNSs available (37%) and that these sites are time consuming (34%). Few respondents were concerned about privacy issues. Only 25% indicated privacy as a drawback and 24% thought there was insufficient data protection. Likewise, spam was not respondents' main concern; only 14% of them indicated spam as a drawback. Finally, it seems that SNSs are easy to use indeed, as only 5% of the respondents considered their usability as a drawback.

Most valued features and functionalities

Respondents indicated that the *features* they like most from SNSs are the possibility to keep in touch with people they know (55%), their usability (42%), sending personal messages (38%), meeting people at a distance (24%) and find resources (24%). At the same time, features such as sharing resources (19%), discuss (13%) or share knowledge (13%) were not considered as top features.

Respondents were asked to rank the *functionality* they appreciate the most. Table 1 shows the ten most appreciated functionalities of SNSs. For instance, functionality for 'personal profiling' (first cell) was selected as first option by 15% of the respondents, as second option was selected by 14% of the respondents, and so on. The last column totalizes the percentages. Answers show that respondents value to create and browse profiles, to have a contact list and to be able to send personal messages. They are focus, therefore, on communication one to one. With regard to resources, learners are opportunistic, answers show that they want to browse resources (40 points), more than add their own resources (21 points). Answers also show that learners are particularly content-driven, contact with communities was hardly appreciated (e.g., creation of communities, browse communities, and discussion groups). Likewise, notifications and subscriptions, which are activities that intended to connect participants, were also very low ranked.

It is worth to mention that functionalities such as bookmarking, rating, tagging, blogs, commenting, recommendations and agenda were always in the lower rank, most of them were not selected at all (i.e., they do not appear in Table 1).

Table 1. Most appreciated SNS functionality

	Option					
Functionality	1st (%)	2nd (%)	3rd (%)	4th (%)	5th (%)	Total
Personal messaging	15	14	14	11	12	66
Profile	23	10	8	8	9	58
Browse profiles	19	16	10	5	6	56

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Contact list	9	12	8	9	9	47
Browse resources	10	5	8	9	8	40
Browse others' contacts	0	10	9	6	12	37
Searching facilities	7	7	10	6	0	30
Add resources	4	5	0	8	4	21
Notifications	3	6	12	0	7	28
Chat	0	0	0	7	5	12
Subscribing	0	0	0	12	0	12
Create communities	2	4	5	0	0	11
Browse communities	0	0	4	0	6	10
Discussion groups	2	0	0	0	0	2

Preferences for a dedicated OUNL Learning Network

The survey explored also the perception of OUNL learners' regarding the idea of having a Learning Network designed to develop their competences and support bonding between peers and staff (Sloep, 2008). This notion, which in the survey was not explained in detail to prevent bias, basically consists of providing learners with a Learning Network which gathers people (students, tutors, experts, etc.) interested in the same topic. It would provide more functionalities than a 'normal' SNS, including resources and activities that will help learners to acquire knowledge on the topic they are interested in, as well as services for self-assessment, peer support, and recommendations of courses to follow. Participants were asked about their preferences if this Learning Network would be available. To this end, the following aspects were investigated: learner's preferences regarding functionalities, as well as the features they would like to have available; aspects that will motivate or hinder learners' participation; the type of support learners would like to receive from other members, and the functionalities they consider the most important for this kind of network.

Preferences about functionalities and features

Respondents indicated that if a dedicated OUNL Learning Network would be available, they would consider important *functionality* to exchange resources (71%), manage a list of contacts (65%), start discussion groups (54%), and to have search tools to find fellow students (45%). At the same time they were not so enthusiastic regarding the idea of having blogs (15%), a calendar (diary) (20%), audio/videoconferencing facilities (24%), wikis (28%), chat (31%), or bookmarks (34%).

The most important *features* a Learning Network should provide are means to support learners to find experts who can help them (67%), to access structured content (63%), to get a list of frequent asked questions (55%), to have opportunities to work with others (44%), to be able to discuss in groups (44%), and to find relevant courses via search tools (42%).

At the same time, respondents' answers seem to indicate that learners do not value highly features for collaboration and learning from others. Only 34% of the respondents answered that they would like to have access to well-documented experiences from other users, whereas just 26% would like a recommender system that can inform them of possible collaboration partners. Finally, barely 20% answered that they would like to have extensive profiles from other participants in the network, nevertheless 38% considered it important to be able to recognize what users are actively participating in the network.

Aspects that will motivate or hinder learner's participation in a Learning Network

Respondents indicated that they would be motivated to participate in a Learning Network if the network has trustworthy information (66%) and tools for self-assessment on progress and skills (63%). They will be motivated to participate in the network if it is easy to use (59%) and has a clear layout (42%). They would be also motivated if the network contains interesting course materials (56%), news (55%), and if through the network they can get fast responses to their problems (52%).

Surprisingly, respondents' answers did not show that learners would be motivated to join a Learning Network if they would be able to contact peers easily (37%) or they would be able to collaborate with others (36%).

In parallel, respondents will be hindered to participate in a Learning Network if they have to pay for the service (69%), if the network generates spam (68%), is not easy to use (56%), contains irrelevant resources (54%), has a

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login process (51%), demands excessive time (51%), has a very detail profile in which learners have to fill in a lot of information (46%), or if learners cannot find experts in the network (34%).

Support learners would like to receive from other members of the Learning Network

Most of the respondents would like to receive help on content questions (76%) and help on their progress assessment (48%). They would like to collaborate with others (47%), receive general feedback (44%), and advice on potential follow-up courses (35%).

Respondents were also asked regarding a service of the Learning Network that would suggest to learners peers that could help them. In this scenario, the service could provide a list of potential people so the learner could choose whom to contact, let the service suggest whom to contact, or a combination of both options (i.e., choosing potential people from a list and suggestions of relevant people). 37% of the respondents indicated that they would like to have a combination of both options. A few of the respondents (7%) indicated they would only like to choose potential people from a list, or only to let the service decide whom they could contact (5%).

Most important functionalities in a Learning Network

Finally, respondents were asked to rank the five functionalities they considered most important for a Learning Network within OUNL. They could choose from the following options: schooling or education via social network site; contact peers; contact experts; contact participants who could help with my study; search relevant resources suitable for self-study; advice on continuation of study; recommendation on who could help with my study (peer recommendation). A 5 point scale was used: 1 the most important feature, 5 the least important.

Table 2 shows the functionalities indicated by the respondents. The top ranked functionality is 'contact experts', followed by functionalities as 'search resources suitable for self-study', 'schooling' 'contact participants' 'contact peers', 'recommendation on who could help with my study, and in the last position 'get advice on continuation of study'. Once again, answers show that learners are clearly focus on finding experts, search resources and schooling. They are less focus on interacting with peers and on the community aspect (i.e., get advice, get recommendations).

Table 2. Most appreciated functionality for a OUNL Learning Network

	Option					
Functionality	1st (%)	2nd (%)	3rd (%)	4th (%)	5th (%)	Total
Contact experts	24	26	19	11	11	91
Search resources	22	17	23	15	12	89
Schooling	27	10	9	11	12	69
Contact participants	2	14	15	18	19	68
Contact peers	20	12	10	10	15	67
Peer recommendation	4	11	15	17	17	64
Advice	1	10	10	18	13	52

Discussion

Several conclusions can be drawn from these figures. Overall, results show that although OUNL learners (those who answered the survey), are not actively participating in SNSs, they nevertheless support the idea of a dedicated social network for their study. However, the vast majority does not perceive SNSs as useful to share knowledge and expertise with others, or as sites that could help them to learn from others.

Looking more into the details now, results make evident that distance learners are self-centred, goal-oriented learners. They do not consider it essential to share their knowledge, find peers or work collaboratively. Their focus is on developing their competences as fast and efficiently as possible. Results indicated that for a site as MyOU.nl (or for a Learning Network), the most important functionalities would be to have access to opportunities for education, contacting experts and searching resources suitable for self-study. Learners will be motivated to participate in a Learning Network if it provides tools for self-assessment on progress and skills, contains interesting course materials, and gives them a fast response to their questions. Furthermore, learners indicated that they would like to get support from experts, but not so much from their peers. Functionality for 'contact experts' was highly appreciated. In contrast, learners did not consider functionalities to 'contact peers' or 'get recommendations of peers who can help them' essential.

Second, answers show that learners do not manifest their willingness to work collaboratively in communities. Results show that functionalities regarding 'creating a community', 'browse communities', 'add resources', or

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discussion groups, are hardly appreciated. This also holds for learners' keenness on Web 2.0 tools, such as blogs, wikis, or bookmarks. These results seem to illustrate that in practice learners are not accustomed to work in new social tools and approaches, and that their learning strategies might not fit the 'new' educational trends on social learning (Berlanga *et al.*, in press).
Third, and as mentioned before, our assumption is that a Learning Network should provide specific affordances for community sustainability, so learners should be able to (Berlanga *et al.*, 2009).

> (1) Manage their own presence and contributions; this includes profile, list of contacts and creation of resources.
> (2) Organize the community contributions and support knowledge co-construction; this includes facilitate interaction and reactions to contributions by others, comment on each other's resources and profiles, recommend a learning activities or contacts, or share a set of favourite learning activities.
> (3) Classify and evaluate participants' contributions; this includes tagging and rating functionalities.
> (4) Regulate and control contributions; this includes functionalities to control the level of privacy of learning activities and communities; but also functionalities that allow learners to flag that a particular contribution is seen as offensive.

Answers show that learners were interested in functionalities for managing learner's presence, having their own profile, and browsing other's profiles, but they were not so keen on having to complete a full profile, or on creating their own resources. Results also seem to indicate that learners do not see affordances for organizing and directing MyOU.nl as a priority. Functionalities for organizing the community contributions, such as rating, recommendations or resources or peers, providing comments to other members, were not considered important. Consequently, functionalities for tagging and rating, or privacy issues were not considered important at all.

These findings show also that participants were actually in the early stages of building their identity within a community, to develop their interaction within the community and its members. This is an interactive process that evolves during time. The starting point is to create an identity and to access resources. After this it is possible that participants start to become familiar with others and, afterwards, they will start interacting with the community and actualizing their identity. Similarly as explained by Salmon in her 5 Stage Model for e-learning (Salmon, 2000), in early stages learners need to access to the system and online socialization, just then they will be able to go to the next stage and exchange information. After they can go a step further, in which they will be able to construct their knowledge and, ultimately, develop their competences.
We hypothesize, therefore, that learners, need support so they reach an interaction stage in which they actually build a community. This means that in practice a dedicated OUNL Learning Network (or a MyOU.nl network site) should be equipped not only with purely new functionalities, but that also additional support is needed to guide learners on the use of new social tools and learning strategies, and to develop learners' information skills (i.e., searching, selecting and evaluating contributions) (van Deursen & van Dijk, 2008). This can be better achieved if an introductory course of the Learning Network in question is provided, which might include activities for "learning in Learning Networks". It is also essential that the new functionalities provided by the Learning Network are incorporated in the learning process, so the network contains learning activities that make effective use of new functionalities provided by the network. Our assumption is that, in the long run, these activities will stimulate learners to change their current learning strategies and become active participants of the network.

Conclusions and Future Work

In this paper we presented the results of a survey conducted to investigate distance learners' usage and perception of functionalities for a Learning Network. Results were presented and discussed. The findings reported in this paper will be considered further to evaluate learners' actual use of MyOU.nl. We want to explore if learners, after using MyOU.nl, have changed their preferences and perceptions regarding community participation, desired functionality, and the provision of a dedicated OUNL Learning Network. Subsequently, new guidelines for the next version of the MyOU.nl network site will be suggested. It would be also relevant to further investigate if learners' background, topic of study and/or level of experience as distance learners, significantly affect their preferred functionalities for a Learning Network.

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